

### ■ Landscape Zone 3 - Illinois Prairies

East of the village of Stockton, the landscape is characterized by gently rolling, open farm country. In this region of older glacial drift, drainage patterns have evolved enough that major streams have carved valleys into the otherwise moderately rolling terrain. In this area, foreground views predominate. The area has occasional background views of the ridges to the north. Vegetation patterns and textures are smooth, rounded and uniform. Development patterns and textures are defined primarily by farming activities. This area has the least amount of visual interest of the three landscape zones.

## 2.14.3 Inventory and Analysis of Existing Conditions

A field reconnaissance of the project corridor was conducted to gather baseline information and inventory the existing conditions along the Freeway and Expressway Alternates.

The inventory consisted of:

- aerial and oblique photography
- field verification of the Alternate locations
- gathering of visual analysis data
- gathering of public input at structured workshop meetings

The inventory and analysis began by defining the area of study. Typically, landscape zones are used as units for study, however the diversity of the project area required that the units of study be defined in greater detail. To establish this more detailed basis for evaluation, the existing visual environment was divided into smaller physiographic areas called rating units. Thirty-seven rating units were developed based on physiographic units one to three-miles square in area. This served to accurately evaluate the scenic quality and sensitivity of the visual environment. Based on topography and viewpoint, viewsheds were used to define the limits of the visual environment.

## 2.14.4 Scenic Quality

The three landscape zones found in the project area convey different scenic qualities. The relatively flat farm fields in the eastern portion of the project area are visually less appealing than the hills and woodlands found to the west. The BLM guidelines state that all land has scenic value, but areas with the most variety and harmonious composition have the greatest scenic value.

Based on the fieldwork/Inventory of scenic quality conducted in December of 1998, the 37 units were rated with a high, moderate or low rating based on the apparent quality of the visual resources relative to their physiographic region. Components of scenic quality are presented below.

- Landform - Diversity, texture and pattern apparent in each rating unit. For example, the greater variety of hills, valleys and promontory yielding vistas, the higher the rating.
- Vegetation - Diversity of species, texture and pattern apparent in each rating unit. For example, the greater the amount of diversity in plant species and size, the higher the rating.
- Water - Rivers, creeks, ditches or water bodies such as ponds. For example, river valleys would be rated higher than ditches along roadsides.



- Color - Variety and interest apparent in each rating unit. For example, a deciduous forest in the fall would have a higher rating than a farm field.
- Influence of Adjacent Scenery - Long distant views or framed views in rating units. For example, distant views produced by combinations of landform and vegetation would receive a high rating.
- Scarcity - Unusual landforms, rivers, creeks, forests within a rating unit. For example, Horseshoe mound is an unusual landform produced before glaciation and would receive a high rating.
- Cultural Modifications - Man-made structures that are visually pleasing within the rating unit. For example, the City of Galena is a man-made cultural modification that would receive a high rating while an industrial area would receive a low rating.

It should be noted that the evaluations avoided a bias against man-made modifications to the natural landscape. Man-made features that complimented the landscape were rated highly because they enhanced scenic quality (i.e., the Scenic Tower).

The results of the three evaluations were averaged to produce a final score for the quality of the scenic resources for each of the 37 rating units.

Ranges for the scores were collated to provide a rating unit of A, B or C as shown below.

### **Scenic Quality**

**A = 19 or more**

**B = 12-18**

**C = 11 or less**

#### **2.14.4.1 Summary of the Scenic Quality Analysis**

##### ■ *Highest Visual Quality*

The highest values are located in Units 2, 3, 5, 6, 7, 9, 13, 14, 16, 18, 20, 21, 23 and 26. The key factors contributing to the high scenic quality were the hollows and ridges south of the city of Galena and several locations along the Apple River. In addition, Unit 26, which stands alone in the eastern portion of the project area at Rush and Lawhorn Creek, has a high visual quality. The highest visual quality areas listed above, for the most part share the characteristics of Landscape Zone 1 - Upland Ridges and Hollows.

##### ■ *Moderate Visual Quality*

Units 1, 4, 8, 10, 12, 15, 17, 19, 22, 24, 25, 27, 30 and 36 have moderate visual quality. The largest concentration of these units is between the hollows and the village of Stockton. Moderate visual quality areas are characterized by Landscape Zone 2 - Rolling Hills and Valleys.

##### ■ *Lowest Visual Quality*

Areas of low visual quality include Units 11, 28, 29, 31 to 35 and 37. These units are located within the eastern portion of the project area near the village of Stockton and the town of Lena and are generally found in Zone 3 - Illinois Prairie.

Figure 2-14 illustrates the scenic quality ratings along the project corridor.





## 2.14.5 Viewer Sensitivity

In this portion of the analysis the sensitivity of the viewer to their environment is assessed. U.S. Route 20 is used regularly by recreational motorists, vacation homeowners and travelers who enjoy the scenic nature of the drive. Local residents, commuters and general highway users also appreciate the visual quality of the area.

Each of the 37 rating units were evaluated for viewer sensitivity. The results were presented at several public workshops by the Department for comment and review. Based on public input, the averaged scores were calculated to determine the final sensitivity level ratings.

### 2.14.5.1 Components of Viewer Sensitivity

Viewer sensitivity measures the viewers' perception for the quality of the visual resources within each rating unit in terms of the type and amount of use, presence of adjacent land use, special use areas and the public interest. To evaluate the viewer sensitivity to the visual resources within each rating area, sensitivity elements were rated as high, medium, or low for the following components of viewer sensitivity.

Type of Use: Perception of visual quality changes based upon the type of use in a given area. For example; high tourism or residential areas would have a high viewer sensitivity compared to an empty farm field.

- Amount of Use: A large number of users concentrated in a rating unit would receive a higher score than a small number of users within a rating unit.
- Public Interest: Interest in preserving visual quality changes through the 37 rating units. For example; historic areas such as the city of Galena and the Driftless Area would receive a high rating when compared to areas with little or no historical significance. Key ecological areas such as Tapley Woods or Terrapin Ridge would also receive higher ratings.
- Adjacent Land Uses: The effect of adjacent land uses has an effect on rating units as well. For example, areas that view mining operations or industrial complexes would receive a lower rating.
- Special Use Areas: Uses such as the Scenic Tower or the Galena Territories would be considered special. As such, they would be rated high for viewer sensitivity.

### 2.14.5.2 Summary of the Viewer Sensitivity Analysis

#### ■ High Viewer Sensitivity

Areas of high viewer sensitivity are characterized by a large volume of viewers due to the high density of dwellings, tourism and special uses. The highest viewer sensitivity is focused among rating units 1 to 9, 13 to 19 and 20 to 24 from the west end of the project area to just west of Woodbine. In addition, rating units 28 and 33 located near the village of Stockton and the village of Lena were given high ratings.

#### ■ Moderate Viewer Sensitivity

Units 10 to 12, 25 to 27, 30 to 31 and 36 were rated as moderate. The highest concentrations of moderate units are located between Woodbine and the village of Stockton and between the village of Stockton and the village of Lena. A mixture of use and the amount of use make this



area moderately sensitive. The towns and amenities in this area generate most of the sensitivity as there are few special areas and little public interest.

#### ■ Low Viewer Sensitivity

The units with the lowest level of viewer sensitivity are found at the eastern portion of the project area and include units 29, 32, 34, 35, and 37. This area has the lowest density of use and population. The least public interest and special uses are found in these rating units.

Figure 2-15 illustrates the levels of viewer sensitivity along the project corridor.

### **2.14.6 Type of Viewers Within the Project Area**

The third element in the inventory and analysis was to define the viewpoints and viewsheds of the two major types of viewers in the project area. The two types of viewers that will be affected by the proposed project include:

- Viewers of the road: Local residents, vacation home owners and tourists.
- Viewers from the road: Commuters and general highway users.

To define the viewer's perspective, viewsheds were calculated using topography within the project area. The viewsheds depict the surface area visible from a given viewpoint or a series of viewpoints.

The viewsheds were used to establish the precise views that could be affected by the Alternates.

Zones were identified within the viewsheds from the viewer's approximate location to further classify the viewpoints as foreground views, middleground views or background views.

#### **2.14.6.1 Describing the Types of Viewers Using Distance Zones**

Three types of Distance Zones were defined pursuant to the BLM guidelines. These zones are based on the relative visibility from the following specific points of interest.

#### ■ Special Areas' Views of the Road:

High tourism and interest areas including Irish Hollow, Long Hollow, the Scenic Tower, and Tapley Woods were defined as special areas by the U.S. Route Tourism Work Group.

#### ■ Towns' and Developments' Views of the Road:

The city of Galena, the Galena Territory, the township of Woodbine, and the villages of Stockton and Lena were all mapped because they are the primary population centers within the project area.

#### ■ Views from the Road:

The Freeway and Expressway Alternates were mapped to illustrate the views from the road.





### **2.14.6.2 Distance Zones**

The Distance Zones were based on offsets of the viewpoints to the outer extent of the viewshed. The following summarizes the three types of Distance Zones.

#### ■ Foreground Distance Zone

- Includes those areas 0 - 0.5 miles from the viewpoint.
- Lands in this zone would receive the greatest impact from the proposed project.
- The land area covered is the least of the three distance zones.

#### ■ Middleground Distance Zone

- Includes areas 0.5 - 1.5 miles from the viewpoint.
- Coverage for this zone is the second greatest.
- Project related impacts are considered more moderate.

#### ■ Background Distance Zone

- Includes areas 1.5 -3.5 miles from the viewpoint.
- The greatest amount of the project area is covered in this zone.
- Less of an impact would occur due to the distance from the viewpoint.

The foreground, middleground and background distance zones are identified on Figures 2-16 through 2-20.

## **2.14.7 Views Of and From the Road**

#### ■ Towns and Developments

The towns included in this zone include the city of Galena, the township of Woodbine and the villages of Elizabeth, Stockton and Lena. In addition, specific developments included the Galena Territory. The highest values are concentrated within a half-mile from the limits of these towns and developments (Figure 2-16).

#### ■ Special Use Areas

The Special Use Areas are located in the western portion of the project area. No Special Use Areas exist in the eastern portion. The highest valued areas shown are within two miles of the Freeway and Expressway Alternates between the Galena Territory and Woodbine and between Tapley Woods and the Scenic Tower. Figure 2-17 illustrates the Special Use Areas Zones.

#### ■ Longhollow Freeway Alternates

These areas include Alternates 1 and 2. The highest values are located within a half-mile of these Alternates. Figure 2-18 illustrates the viewer distance zones for the Long Hollow Freeway Alternates.

#### ■ Irish Hollow Freeway Alternates

These areas include Alternates 3 through 10. The highest values are located within a half-mile of these Alternates. Figure 2-19 illustrates the zones for the Irish Hollow Freeway Alternates.













## ■ Expressway Alternates

These areas include Alternates 11 and 12. The highest values are located within a half-mile of these Alternates. Figure 2-20 illustrates the zones for the Expressway Alternates.

### 2.14.8 Visual Resource Classifications and Objectives

The final phase of the BLM methodology is the determination of Visual Resource Classes through a matrix process. Visual Resource Classifications are the means of synthesizing and drawing conclusions from the mapped information generated in the inventory. This process has yielded four Visual Resource Classes. Each Resource Class is given a list of recommendations for mitigation to be considered as a component of the final design. These recommendations are based on the value of the resource and the degree of acceptable alteration as discussed below.

The inventory and analysis maps used in this process include:

1. Scenic Quality of Resource Map
2. Viewer's Sensitivity Map
3. Towns and Developments Views of the Road
4. Special Areas Views of the Road
5. Views from the Freeway and Expressway Alternates (Views from the Road)

A matrix of values was used to evaluate the mapped information listed above. Using Geographic Information System (GIS), a model was created that mathematically calculated conclusions by assigning values to each of the analysis maps. The assigned values are based on certain recommendations as provided in the BLM guidelines and as a direct result of public input which was provided to the Department during the various public meetings and information centers which were held in the project area during various stages of project development. Input was also provided to the Department by the U.S. Route 20 Work Groups. The following chart depicts how the values were assigned for each map layer.

| MAP  | VALUE |
|--|-------|
| <b>SCENIC QUALITY</b>                      |       |
| High                                       | 10    |
| Medium                                     | 5     |
| Low  | 1     |
| <b>SENSITIVITY LEVEL</b>                   |       |
| High                                       | 10    |
| Medium                                     | 5     |
| Low  | 1     |
| <b>SPECIAL AREAS VIEWS OF THE ROAD</b>     |       |
| Foreground                                 | 10    |
| Middleground                               | 5     |
| Background                                 | 1     |
| <b>TOWN/DEVELOPMENTS VIEWS OF THE ROAD</b> |       |
| Foreground                                 | 5     |
| Middleground                               | 1     |
| Background                                 | 0     |



| <b>VIEWS FROM THE FREEWAY AND EXPRESSWAY ALTERNATES</b> |
|---|
| Foreground  |
| Middleground  |
| Background  |

|   |
|---|
|   |
| 5 |
| 1 |
| 0 |

After each map was assigned values, these values were added together yielding four Visual Resources Classes. Resource classifications were calculated for each of the Alternates providing a total of three Visual Resource Classification Maps. These maps would then be used in the development of recommended mitigation design measures.

Values were divided into four distinct classifications as follows:

|         |       |  |
|---------|-------|--|
| Class 1 | 31-40 | Most Valued Visual Resource            |
| Class 2 | 22-30 | High-Moderately Valued Visual Resource |
| Class 3 | 13-21 | Moderately Valued Visual Resource      |
| Class 4 | 3-12  | Least Valued Visual Resource           |

#### **2.14.8.1 Visual Resource Class Objectives**

Each of the four classes noted above were keyed to specific objectives for the management of visual impacts for each Alternate. Each objective describes the degree of acceptable alteration made to the existing landscape.

#### **2.14.8.2 Class 1 Objective**

Areas shown as Class 1 are considered as the highest level visual resource. While construction would not be prohibited, efforts would need to be made to ameliorate or limit potential visual impacts. Roadways and structures should incorporate design aspects that would serve to limit or reduce the effect of the proposed road on the visual landscape. Class 1 lands should receive the highest priority in visual impact reduction efforts.

Class 1 mitigation considerations should include:

- Right-of-way acquisition where additional lands would result in more sensitive design alternatives.
- The alteration or changes to the topography or slope of the land should be minimal to moderate. Where embankments and large fills are necessary, economically feasible amelioration techniques such as creating planting pockets should be used.
- Natural ecological systems should be maintained to the highest level possible.
- Changes to existing vegetation should be kept to a minimum. If required, native materials should be used in those areas with the most severe impacts, otherwise native turf and grasses should be used.
- Structures should use materials that will blend into the surrounding area. Care should be given to creating structures that fit within the surrounding areas.
- Signage and fencing should be minimized wherever possible and billboards should be limited or prohibited.
- Preservation of made-made features such as the Scenic Tower should be taken into consideration.



### **2.14.8.3 Class 2 Objective**

Areas shown as Class 2 are considered high-moderate level visual resources. While construction would not be prohibited, all reasonable efforts should be made during the design phase to ameliorate potential visual impacts.

Class 2 mitigation considerations should include:

- Right-of-way acquisition should be considered where additional lands would result in more sensitive design alternatives and where structures and large fills are present.
- The alteration or changes to the topography or slope of the land should be minimal to moderate. Where embankments and large fills are necessary, economically feasible amelioration techniques such as creating planting pockets should be used.
- Changes to existing vegetation should be designed to create a seamless transition between the old and the new. Native materials should be used to camouflage proposed cuts / fills and any structures used along the road.
- Structures should use materials that will blend the structures into surrounding areas wherever economically feasible and where the materials will be seen the most.
- Signage and fencing should be minimized wherever possible and billboards should be limited or prohibited.

### **2.14.8.4 Class 3 Objective**

Areas shown as Class 3 are considered as low level visual resources. Visual impact reduction in these areas should be limited to structures and severe cuts and fills.

Class 3 mitigation considerations should include:

- Right-of-way acquisition should be limited to the minimum amount necessary to accommodate construction.
- The alteration or changes to the topography or slope of the land should be minimal to moderate. Where embankments and large fills are necessary, economically feasible amelioration techniques such as creating planting pockets should be used.
- Changes to existing vegetation should be kept to a minimum. If required, native materials should be used in those areas with the most severe impacts, otherwise native turf and grasses should be used.
- Structures built in these areas should use materials that are economical and practical.
- Billboards and large signage should be kept to a minimum.

### **2.14.8.5 Class 4 Objective**

Areas shown as Class 4 are considered to be the lowest level visual resources. Impact reduction efforts in these areas should be limited to only the most severe impacts.

Class 4 mitigation considerations should include:

- Right-of-way acquisition should not be limited to the minimum amount necessary to accommodate construction.
- The alteration or changes to the topography or slope of the land should be minimal to moderate. Where embankments and large fills are necessary, economically feasible amelioration techniques such as creating planting pockets should be used.



- Changes to existing vegetation should be kept to a minimum. If required, native materials should be used in those areas with the most severe impacts, otherwise native turf and grasses should be used.
- Structures should use materials that are economical and practical.
- Billboards and large signage should be kept to a minimum.

Figures 2-21, 2-22 and 2-23 illustrate the four visual resource class objectives for the Freeway and Expressway Alternates.







